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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/576,211 | 05/23/2000 | Katsunori Yanagida | NOK-004 | 2885 |

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| EXAMINER |
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MERCADO, JULIAN A

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| ART UNIT | PAPER NUMBER |
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1745

DATE MAILED: 07/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF=8

Office Action Summary

Application No.

09/576,211

Applicant(s)

YANAGIDA ET AL.

Examiner

Julian A. Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-80 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 May 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Remarks

This Office Action is responsive to Applicant's amendment filed May 16, 2002.

The rejection of claims 1-80 under 35 U.S.C. 112, second paragraph has been withdrawn.

Drawings

The objection to the drawings under 37 CFR 1.83(a) is maintained for the reasons of record. The drawings must show every feature of the invention specified in the claims.

Therefore, the instant first inner core carbon material and second outer coating carbon material coating the outer surface of the first carbon material must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Applicant's arguments regarding the objection to the drawings have been fully considered, however they are not persuasive. Applicant submits that a drawing is not required for an understanding of the invention as recited in the amended claims. While a drawing may not be necessary for an understanding of the invention (35 U.S.C 112, second paragraph requirements notwithstanding), it does not preclude the examiner from requiring a submission of drawings, as the nature of the subject matter sought to be patented admits of illustration by a drawing. Applicant is urged to submit at least an ink sketch or permanent print of any drawing proposed in reply to this requirement.

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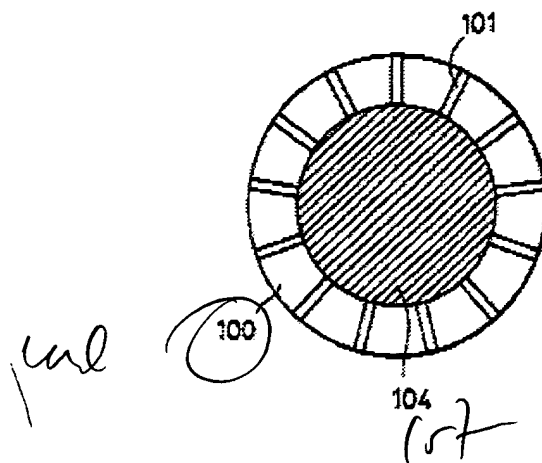
Claim Rejections - 35 USC § 102 and 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 12, 13, 27, 28, 38, 39, 53, 54, 64-66 and 80 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawakami et al.

The rejection is maintained for the reasons of record. A reiteration here follows. The examiner notes that the claims have been amended primarily to obviate the rejection set forth under 35 U.S.C. 112, second paragraph (now withdrawn). The claims as amended more clearly state a first carbon material serving as an inner core, and a second carbon material coating the outer surface of the first carbon material. In this regard, Kawakami is maintained to teach a first carbon material [104] and second carbon material [100], as shown in Figure 3:

FIG. 3



The second carbon material is specifically disclosed to contain boron such as borane-trimethylamine complex, *inter alia*, as found in column 7 lines 1-19:

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The content of the element added into the carbonaceous material is preferably 1 to 20 atomic percent of the resulting porous hollow carbonaceous material after calcination in order to obtain the electrode having a higher electric capacity. Examples of preferred elements added include boron in Group IIB, silicon in Group IVB, nitrogen and phosphorus in Group VB, sulphur in Group VIB, and fluorine and chlorine in Group VIIA. Between them, boron is most suitably added. Examples of preferred boron compounds added into the raw polymer before calcination include triallylboron, such as triphenylboron, tri-p-tolylboron; borane complexes, such as borane-4-methylmorpholine complex, borane-4-methyl-phenylmorpholine complex, borane-piperazine complex, borane-piperidine complex, borane-polyvinylpyridine complex, borane-tetrahydrofuran complex, borane-triethylamine complex, borane-trimethylamine complex, borane-methyl sulfide complex, and borane-methyl-1,4-oxathiane complex; tetraphenylborate compounds, such as sodium tetraphenylborate.

Claims 6-11, 17-26, 32-37, 43-52, 58-63 and 70-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al. as applied to claims 1, 2, 12, 13, 27, 28, 38, 39, 53, 54, 64-66 and 80 above.

The rejection is maintained for the reasons of record, herein incorporated by reference.

Claims 3, 4, 14, 15, 29, 30, 40, 41, 55, 56, 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al. as applied to claims 1, 2, 12, 13, 27, 28, 38, 39, 53, 54, 64-66 and 80 above, in view of Takami et al.

The rejection is maintained for the reasons of record, herein incorporated by reference.

Claims 5, 16, 31, 42, 57, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al. as applied to claims 1, 2, 12, 13, 27, 28, 38, 39, 53, 54, 64-66 and 80 above, in view of Tamaki et al.

The rejection is maintained for the reasons of record, herein incorporated by reference.

Response to Arguments

Applicant's arguments filed May 16, 2002 have been fully considered but they are not persuasive.

Applicant submits that the conductive material [104] is not an inner core particle. This argument is not persuasive, as the conductive material [104] is specifically shown (by way of illustration) to reside within the realm of the second carbon material [100].

Applicant submits that the conductive material [104] is a conductive powder such as metal powder and not a carbon material. It appears to the examiner, absent of a specific column/line citation by Applicant in support thereof, that Applicant is relying on column 5 lines 40-43 as follows:

be readily prepared. For example an aqueous transition metal salt solution in which conductive powder such as metal powder is used to prepare the above-mentioned emulsion.

However, in column 8 lines 27-31, the patentees further teach the following:

1. Draw to 104

example, coater coating and screen printing. Preferred examples of the auxiliary conductive material are amorphous carbon such as carbon black for example, powder or so fibrous acetylene black and ketjen black; graphite; metals inactive to the battery reaction.

Thus, a teaching of metal powder for the conductive material [104] is found merely illustrative of other materials, such as carbon black, *inter alia*, which may be used as the basis for the conductive material. Applicant's argument that the conductive material [104] is not a carbon material is therefore not persuasive.

Arguments against Takami and Tamaki appear to be directed to these secondary references not remedying alleged deficiencies in the Kawakami reference. However, in view of

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the foregoing discussion, Kawakami is maintained to teach or at least suggest the claimed invention.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. 6,103,423 to Itoh et al. teaches a first and second carbon core. U.S. Pat. 6,395,427 B1 to Sheem et al., although not qualifying as prior art, is cited of Applicant's interest.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jam
July 21, 2002


Superintendent
Technology Center 1700